

Family and Environmental Influences on the Prevention of Antisocial Behavior

Mary McKernan McKay, Ph.D.

Ph.D., University of Illinois at Chicago,
Jane Addams College of Social Work, 1994

Director of Social Work Training
and Assistant Professor of Social Work
University of Illinois at Chicago

Statement of the Research Problem

This research study examines two of the contexts for the emergence of antisocial behavior, the family and the social environment. The study explores the relationship between family and environmental characteristics of children identified to be at risk for further antisocial behavior in order to explain their families' response to a 22 week family prevention program. The extent to which the influence of family relationship characteristics, and the impact of the program is undermined by environmental stress is examined. The primary aim of the study is to identify family and environmental characteristics that facilitate change in conjunction with an intervention program and those family and environmental characteristics that serve as obstacles to the family making changes, even though they complete the same intervention program.

Research Background

Early displays of antisocial behavior are a most serious public health issue. Urban areas in particular, have crime rates four to ten times higher than the national average with violent crimes being highest among inner-city, African American and Latino young men (Fingerhut & Kleinman, 1990; Hammond & Yung, 1991). Since urban violence has risen dramatically, the prevention of antisocial behavior has become a national priority (Tolan & Loeber, 1993; Tolan & Guerra, 1994). Family factors have been consistently implicated in aggression studies as one of the most powerful predictors of risk (Loeber & Stouthamer-Loeber, 1987; Tolan, Cromwell & Brasswell, 1986). Further, intervention at a family level has shown significant promise in reducing the emergence of serious antisocial behavior (Patterson et al., 1982; Webster-Straton, 1990; Henggeler et al., 1992; Tolan & Mitchell, 1989; Alexander et al., 1976). However, previous studies have found that family intervention programs are less successful in involving families who are of low socioeconomic status, experience more stressors, and/or have fewer social resources (Wahler & Dumas, 1989; Miller & Prinz, 1990; Webster-Straton, 1990). Yet,

it is children from these segments of society who are most at risk for serious behavioral difficulties.

This dissertation study is part of an urban, longitudinal delinquency prevention field trial, the Metropolitan Area Child Study (MACS) (Guerra, Tolan, Huessmann, VanAcker & Eron, 1991). The MACS family intervention component consists of a 22 week program that focuses on skills building, communication enhancement and support-network building activities that are directed toward three primary aspects of family functioning which have been linked with serious antisocial behavior: parent management methods; emotional atmosphere of the family and family problem solving and coping skills (Tolan & McKay, 1995).

Methodology

The study has been designed to address the following question: How do family relationship characteristics and level of environmental stress mediate the impact of a 22 week family prevention program? In order to answer this question, two alternative models of the relationship between environmental stress and family relationship characteristics at pretest are tested. In the first model, environmental stress and pretest family characteristics are viewed as potential main effects, independently capable of explaining change in posttest characteristics. In the second model, environmental stress is presented as interacting with pretest family characteristics in order to mediate change in family processes at posttest.

The sample is drawn from the children identified to be at risk from the 4 elementary schools assigned to the family treatment condition of the MACS. A total of 181 families completed the family intervention program. Of those families, 167 completed pre/post measures. Approximately 40.9% of the children are African American, 37.6% are Latino and 15.% are White. Over 40% of children live in two parent families; 30.4% reside with their mothers only. An additional 13.6% of children live with their mother and either a boyfriend or another relative.

Measures (presented by construct):

1) Family relationship characteristics

MACS Family Assessment Measure (Tolan et al., 1995) is a 105 item measure assessing family relational qualities administered at pre and posttest of family intervention. Subscales of the measure include: family cohesion, beliefs about family, family organization, communication, support and shared deviant beliefs. Internal consistency for the subscales range from .52 to .87.

2) Stressors

Family Stress Questionnaire (Tolan, Miller & Thomas, 1987) is a 33 item parental report measure, consisting of five subscales, induced transitions, developmental transitions, circumscribed life events, exposure to community violence and daily hassles. Parents were asked to identify the presence or absence (yes or no responses) of particular stressors in the last

year. Normative data for this measure is available from approximately 500 urban families (Guerra et al., 1991; Tolan & Gorman-Smith, 1991).

Impediment to Change Scale (McKay & Tolan, 1992) is a 12 item therapist report measure, tapping both within family and external stressors, such as drug addiction, parental illiteracy, domestic violence, exposure to community violence and parental arrest.

Data Analysis

Analyses were completed in two stages. First, preliminary analyses were conducted to address three methodological concerns. Paired t-tests were computed for each of the six family relationship characteristics to ensure that measures were sensitive enough to measure change and that in fact, some families did evidence change in their families from pre to posttest. Next, in order to address potential issues of multicollinearity between measures, bivariate correlations for all scales were evaluated. Finally, in order to rule out alternative explanations for change in family characteristics, ANCOVAs were used to evaluate whether change in family characteristics varied by site and race/ethnicity.

Following these preliminary analyses, hypotheses were evaluated using multiple regression analyses. A main effects model of independent influences of stress and family pretest functioning was evaluated first. Then, the interaction model with cross product interaction terms, total level of environmental stress by pretest family scores was evaluated.

Results

1) Evaluation of pre to post change in family characteristics

Pre and posttest differences of family relationship characteristics for the total sample were compared using paired t-tests to evaluate whether the program was associated with change in family relationship characteristics on average. Statistically significant results were found for family scales, cohesion and communication ($p < .01$) and for beliefs about family ($p < .05$). Pre/posttest scores did not significantly differ on shared deviant beliefs, organization and family support.

2) Correlation between independent variables

Bivariate correlations between all scales comprising independent variables were weak to moderate, suggesting some interrelation of constructs but enough independence to consider them distinct.

3) Race/ethnicity differences

Differences in level of family change, from pre to posttest, by families' racial/ethnic identity were explored using analyses of co-variance. No significant differences in the amount of change by families of different racial/ethnic groups were found. Latino families did tend to

evidence greater increases in family support in comparison to African American or White families.

4) Site differences

ANCOVAS were again used to evaluate change levels of family characteristics for two groups of families, those whose children attend a school associated with a high rise housing project and all other families. No differences were detected.

5) Hypothesis testing

5a) HYPOTHESIS #1: Family cohesiveness and shared family beliefs will significantly explain change in family characteristics, controlling for pretest differences.

Pretest family cohesion and beliefs about family did not contribute significantly to understanding change in family characteristics in any of the equations computed.

5b) HYPOTHESIS #2: Therapist reports of impediments to change will contribute significantly to an understanding of change in family characteristics, beyond that which can be explained by mothers reports of stress, controlling for pretest differences in families.

Only in relation to family organization, did total level of stress explain significantly more variance than pretest value alone. Impediments, reported by the therapist, did not contribute significantly to understanding change in family relationship characteristics when impediments were entered as a total scores. However, separate impediments did significantly explain change in specific family characteristics.

5c) HYPOTHESIS #3: Exposure to community violence will significantly explain change in family relationship characteristics, controlling for pretest family differences.

Exposure to violence only added significant explanation of variance in change in family relationship characteristics in the equation considering family organization.

5d) HYPOTHESIS #4: Level of environmental stress will interact with pretest family relationship characteristics in explaining level of family relationship characteristics at posttest, controlling for pretest differences.

Only in relation to change in family organization did total level of stress contribute significantly as a main effect ($p < .01$). However, significant interactive effects were found in relation to change in family organization, cohesion and beliefs about the family.

Utility for Social Work Practice

Within this study, there is a dual focus, both on the family environment of an at risk child and on the larger environment within which the family must function. This dual focus is congruent with the framework of the social work profession to evaluate problems from a person/environment perspective (Germain, 1980). The MACS family program is meant to promote increased family well-being and address newly emerging difficulties rather than treating

serious antisocial behavior. The endorsement of a family competence perspective is clearly in line with social work value commitments. Further, the study reflects social work's commitment to underserved, disadvantaged populations. The sample involved in this study are primarily urban, lower income African American and Latino children and families.

Rather than simply examining the impact of the intervention on family relational processes, the study attempted to identify contextual factors that impeded the effectiveness of the intervention. The finding that environmental stress did interact with pretest family characteristics in explaining intervention outcome empirically reinforces social workers' framework that change is a complex process that is influenced by both intra and extrafamilial factors.

References

- Alexander, J.F. & Barton, C., Schiavo, P.S., & Parsons, B.F. (1976). Impact of family systems intervention on recidivism and sibling delinquency: A model of primary prevention and program evaluation. Journal of Consulting and Clinical Psychology, 44, 656-664.
- Fingerhut, L.A. & Kleinman, J.D. (1990). International and interstate comparisons of homicide among young males. Journal of American Medical Association 263, 3292-3295.
- Guerra, N.G., Tolan, P.H., Huesmann, L.R., VanAcker, R., & Eron, L. (1990). Preventing the emergence of serious antisocial behavior in high risk youth. NIMH grant proposal. University of Illinois at Chicago.
- Hammond, W.R. & Yung, B.R. (1991). Preventing violence in at-risk African American youth. Journal of the Health Care for the Poor and Underserved, 26, 1-16.
- Henggeler, S.W., Melton, G.B., & Smith, L.A. (1992). Family preservation using multisystemic therapy--An effective alternative to incarcerating serious juvenile offenders. Journal of Consulting and Clinical Psychology, 60, 953-961.
- Loeber, R., & Stouthamer-Loeber, M. (1987). The prediction of delinquency. In H.C. Quay, (Ed.), Handbook of juvenile delinquency (pp. 325-382). New York: Wiley.
- McKay, M. & Tolan, P.H. (1994). Impediments to family change scale. University of Illinois at Chicago.
- Miller, G.E. & Prinz, R.J. (1990). Enhancement of social learning family intervention for childhood conduct disorder. Psychological Bulletin, 108, 291-307.
- Patterson, G.R., Chamberlain, P., & Reid, J.B. (1982). A comparative evaluation of a parent training program. Behavior Therapy, 13, 630-650.
- Tolan, P.H., Cromwell, R.E., & Brasswell, M. (1986). Family therapy with delinquents: A critical review of the literature. Family Process, 25, 619-650.
- Tolan, P.H., & Gorman-Smith, D. (1991). Chicago Youth Development Study. NIMH funded grant proposal.
- Tolan, P.H., Gorman-Smith, D., Zelli, A. & Huesmann, R. (1995). Assessing family processes to explain risk for antisocial behavior and depression among urban youth. Manuscript submitted for publication.

- Tolan, P.G., & Guerra, N. (in press). What works in reducing adolescent violence: An empirical review of the field. Journal of Applied and Preventative Psychology.
- Tolan, P.H., & Loeber, R.L. (1993). Antisocial behavior. In P.H. Tolan & B.J. Cohler (Eds.), Handbook of clinical research and practice with adolescents (pp. 307-331). New York: Wiley.
- Tolan, P.H., & Mitchell, M.E. (1989). Families and the therapy of antisocial and delinquent youth. Journal of Psychotherapy and the Family, 6, 29-48.
- Wahler, R. & Dumas, J. (1989). Attentional problems in dysfunctional mother-child interactions: An interbehavioral model. Psychological Bulletin, 105, 116-130.
- Webster-Stratton, C. (1990). Predictors of treatment outcome in parent training for families with conduct problem children. Behavior Therapy, 21, 319-337.